THE macdonald JOURNAL

NOVEMBER 1978

NEW PROGRAMS TO INCREASE LIVESTOCK FEED PRODUCTION IN QUEBEC

message to Quebec farmers

Financial and technical assistance is available from the Canadian government in collaboration with the Quebec government to help farmers solve their problems with production of livestock feed. This assistance is made possible as a result of adjustments introduced to improve freight programs to transport grain feed from Western Canada to Quebec. It is financed by the Canadian government up to $33.5 million and implemented by the Quebec Ministry of Agriculture which assumes the administrative costs.

Programs offered to farmers include:

1 **ASSISTANCE FOR ON-FARM GRAIN STORAGE**
Grants towards the purchase and installation of grain storage silos, ventilating systems and corn cribs.

2 **ASSISTANCE FOR SPECIALIZED GRAIN HARVESTING EQUIPMENT**
Grants to groups of three or more producers in certain regions, towards the purchase of combines. For 1978-79, the eligible agricultural regions are the Lower St. Lawrence and Gaspé (region # 1), Quebec (region # 2), part of Beauce (region # 3), North-West Quebec (region # 9) and Saguenay-Lake St. Jean (region # 12).

3 **ASSISTANCE TO IMPROVE FORAGE CONSERVATION**
Grants towards the purchase of forage silos and hay driers to help improve the quality of forage.

4 **ASSISTANCE TO IMPROVE QUALITY AND QUANTITY OF CEREAL AND FORAGE CROP SEEDS PRODUCED IN QUEBEC**
will be available as soon as specifications are developed.

To Qualify, an Applicant:
- must be recognized as a farmer by the Quebec Ministry of Agriculture;
- must apply BEFORE starting the project;
- must conform to regulations of each program.

Program Duration:
April 1st, 1978 - March 31st, 1983.

How to Apply:
Contact your local Quebec Ministry of Agriculture office BEFORE starting work on the project or purchasing equipment.

Agriculture Canada

Agriculture Québec

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In This Issue

Cover: Part of George Pirie's outstanding Holstein herd. For article see Family Farm, page 14.

Journal Jottings

Kilojoules, exchange, bronze, Redcoat, and peat. These are some of the key words in the material in this issue. By 1980, when we wonder if we should have a second helping of some gooey dessert, we won't be counting calories, we'll be worrying about kilojoules. In working on the past few issues, I realize how far behind I am in "thinking metric" and "working metric". Although I've bought a set of metal measuring cups to ensure that I may use my old favourite recipes in the years to come, I realize that a good winter's project will be to inch my way into metric — we won't always have the "old way" in brackets to clue us in.

Apart from the fun and fellowship that the Quebec Young Farmers' exchange provides for a group of young people, I would think that this type of program's major accomplishments are strengthening Canadian unity and promoting goodwill with our neighbours south of the border.

Redcoat is one of the more popular strawberry cultivars found in Quebec. For an overall picture of Quebec's No. 1 small fruit, see the article in this issue.

Though not necessarily a typical November cover, nevertheless I thought the Holstein photo too attractive to place on the inside pages and I couldn't keep it for a summer issue. The reason: this is part of the outstanding herd belonging to George Pirie of Bristol in Pontiac County. Mr. Pirie, a former Diploma in Agriculture student at Macdonald, was the leading contestant in the bronze medal class of the 1978 competition of the Order of Agricultural Merit. His story appears in the Family Farm section.

Canada ranks third in the world in terms of peat resources; read about its potential in "Peat Moss for Starting Plants".

Evening course students studying everything from bees to ploughing become part of our growing number of readers with this issue. For those who may not be familiar with the magazine, we hope you will find articles of interest in the months to come. If you are already receiving the magazine as a regular subscriber, may we suggest you pass the extra copy along to a friend.

Hazel M. Clarke

Editorial

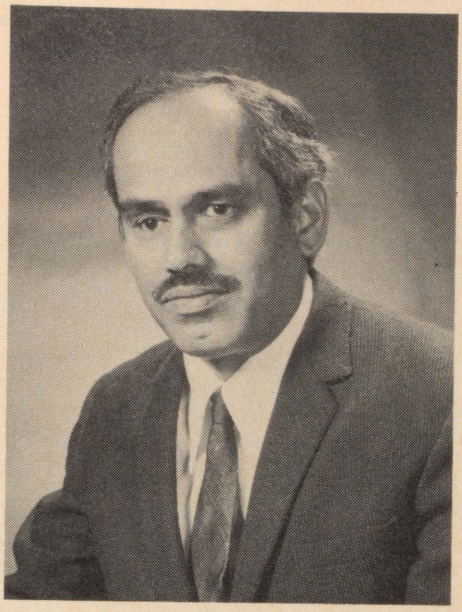
Until recent years, agricultural land seemed to be the last issue to preoccupy the farmers and agricultural policymakers. Was not Canada the country of endless resources and limitless boundaries of land? This view is being seriously challenged since the awakening of farmers and politicians to the fact that arable land in Quebec is very much a limited resource and that certain sectors have been guilty of mismanaging and infringing in this primary resource. Although there have been rumblings for a number of years about the need of legislation, it was not until this summer that, under the auspices of the Minister of Agriculture, the Honourable Jean Garon, some concrete steps have been initiated to create a greater awareness among Quebecers of this problem.

The intention of the present government is to introduce legislation as a protective measure to stop the erosion of Quebec's precious little farm land for non-agricultural ends. This summer, the Ministry of Agriculture circulated a pamphlet to all farmers called "Document de consultation sur la protection du territoire agricole Québécois". It was an effort to make all interested parties aware of the situation and issues facing land-use in Quebec. The main issue raised was the rapid disappearance of our good agricultural lands. It stated that less than 2% of the Quebec total area of 336 million acres has an agricultural potential. Of real concern is the rate that this small area is being absorbed into uses other than agriculture without any foresight into the consequences. This point is illustrated by the Statistics Canada 1961 census where the total area of farms in Quebec is in the vicinity of 14.2 million acres, in 1976 only 9.9. million acres were reported; a 30% decrease in total area. The land under cultivation diminished by 12.4% over the same period of time.

An interesting paradox is that Quebec finds itself in the same predicament as some of the developing countries in the sense that its total agricultural production cannot sustain the demand for food by its population. Quebec therefore is a net importer in many agricultural products. There is no doubt that the government legislation on land use will have a long term impact in the agricultural industry. The concept of protecting a limited resource for collective society will assure us a viable agricultural industry for the farmers of tomorrow.

Martin van Lierop

Dr. Muri A. Viswanathan
1928-1978



Muri Viswanathan went to the first seminar of the current evening series in Plant Science on Wednesday, September 27. He arrived early and joked for a while with the three grad students already there. Suddenly he collapsed. He was dead of a massive heart attack on arrival at hospital.

Vis, as everyone knew him, came to Macdonald College from India in 1960. Many students from India are from well-to-do families who can educate their children at home, then send them abroad. Vis was different. His father, a lawyer and Sanskrit scholar, had fallen on hard times. Vis's family could spare the few cents a day he needed for food but could not buy textbooks for him at High School or University. This did not hold him back. He won Merit Scholarships for highest standing in High School, then in the Intermediate Course at an Arts and Science College in his native Kerala State, and in the B.Sc. (Agr.) course of Madras University; prizes for highest standing in various subjects and individual years of his course; and a scholarship for postgraduate research at the Indian Agricultural Research Institute (I.A.R.I.) at New Delhi.

He added research experience to his academic honours. After completing the B.Sc. (Agr.) in 1949, he worked as a research assistant in cotton breeding for a year. After completing the M.Sc. equivalent in 1952, he worked at I.A.R.I. in wheat rust control for eight years, until leaving for further studies at Macdonald College.

He did the Ph.D. in plant pathology under Dr. Pelletier's direction on a histochemical and physiological problem on late blight of potatoes, completing it in 1964. He then did postdoctoral work for two years at the University in Geneva, Switzerland.

Vis began his teaching career as a teaching assistant in the last year of his Ph.D. program. He returned to Canada from Switzerland in 1966 to teach for a year in the Biology Department at Prince of Wales College in Charlottetown, P.E.I. He came back to Macdonald College as a Professional Associate from 1967 to 1970. From then until his death just one month before his fiftieth birthday, he was an Assistant Professor, teaching in turn most of the courses in plant pathology and botany offered in the department, substituting for one after another of his colleagues absent on sabbaticals or other extended leaves. He took particular pleasure in teaching Diploma students.

For the last few years Vis and his family lived on the campus, at 4 Rivermead. All Canadian citizens, and proud to be so, the family continued to enjoy vegetables and condiments characteristic of south Indian cookery. Vis grew many of these in the garden behind their house, the envy of all who saw it. The small area produced prodigiously, and the crops were shared with many whose thumbs were not as green as his. His other leisure pursuits included reading and stamp collecting. The loss of an eye in an accident on the family's small farm when he was 12 slowed him down at some sports. It did not prevent him being a wicked softball pitcher.

Vis was a quiet person, but a warm and friendly one. He was always available and always helpful to his students and was particularly appreciated by them. Amazingly strong, until his second heart attack in 1977, he was always ready to lend a hand literally as well as figuratively, in anything that needed to be done.

That hand, incidentally, was very much quicker than the eye. While working after getting his B.Sc. degree, before starting graduate work and before getting married, Vis had considerable spare time. He became interested in "magic", and taught himself from books and by intensive practice. He bought his only lessons from an old retired magician who taught him a particularly difficult trick for two rupees, about 25 cents Canadian but at that time enough for two day's food.

While still a graduate student at Macdonald, Vis delighted his fellow students and staff at departmental parties with amazing sleight of hand shows. Even after he demonstrated slowly and explained how his tricks were done, some of them still looked like real magic. His wife Kamakshi, who joined Vis at Macdonald in 1961, helped entertain at the same parties with masterly singing and explanation of the intricate and haunting music of south India.

Vis put on his last magic show for the Faculty Club a couple of years ago. It is just one of many things that will be remembered about this unassuming, self-made man who helped everyone he could in every way he could.

He leaves behind his wife, his young daughters, Meena and Leela, and sorrowful students and friends.

W. E. Sackston
Professor of Plant Pathology

CULTIVATED

by Professor C. D. Taper, Department of Plant Science

Of all the small fruits grown in the province of Quebec the aromatic and delectable common garden strawberry is the most cherished and the most important. Its flavour is derived from the ancestral species, *Fragaria virginiana* (Meadow strawberry) which was under large scale cultivation by the Indians of New England prior to the arrival of the European. Its fruit was bruised with corn meal to make bread. Roger Williams, in 1643, termed it "the wonder of all fruits growing naturally in these parts." The large size of our domestic berry comes from its other ancestor, the somewhat bland, *F. chiloensis,* native on small isolated beaches of the Americas from Alaska to Chile, and long cultivated by the semi-nomadic tribes of Chile and by the agriculturally advanced Indians of high Peru. The original cross between these known ancestors was made during the sixteenth century in France. Since seedlings of the common garden berry are occasionally referable to *F. elatior,* (Hautbois), it is suspected that the French at some time may have incorporated the germ plasm of their own favoured species.

Good seedlings of the common garden strawberry may be selected for virtually any geographic situation where plants may be grown. These named cultivars can only be maintained true to type by vegetative propagation involving the removal and planting of the young plants which form ordinarily at every second node on the runners growing from each plant. This is because each seed produces a seedling different from all others.

Since our common strawberry may be grown almost anywhere, it is logical that, in Quebec, it is commercially produced within easy trucking distance of Montreal, still Canada's largest market. Some 3500 to 4500 tonnes are harvested annually, which equates to approximately 8,000 quart baskets per acre or 20,000 per hectare. If one insists, one may equate in grams or kilograms, but there may be some difficulty for containers usually represent volume, not weight, because weight varies considerably. Quarts and acres at present remain units of measurement in southern regions which supply about half our total consumption in the form of frozen or SO_2 preserved berries, and fresh fruit, the latter mainly to our winter market. The production of our competitors vastly exceeds our own. Nevertheless, clearly there is a potential market for an increased production of home-grown processing berries.

The mid-season variety Redcoat accounts for approximately 80 to 90 per cent of Quebec commercial production. Other recommended cultivars are Bounty, Veestar, Vibrant and Sparkle (mid-season). The latter has unsurpassed quality. It is ordinarily ripe during the last week in June. Sometimes grown are Cavalier, which starts to bear one week earlier than Redcoat, and late-ripening Guardsman. However, the latter is extremely intolerant of low moisture at harvest.

Plants may be purchased in early season and held in a cool place to reduce respiration and, hence, carbohydrate loss from the roots. The latter must be cream in colour. Black roots are indicative of an old and no longer useful mother plant. To ensure high yields, young plants from virus free clones are taken from virus indexed mother plants grown by registered propagators in a highly efficient program conducted jointly by the Quebec Department of Agriculture and Canada Agriculture. The plants must be dormant at the time of planting.

It is obvious to everyone that wild strawberries prefer to grow near shrubs on the margins of a clearing or meadow. Falling autumn leaves provide a protective winter mulch and build a soil containing a large amount of organic matter making the medium moisture retentive. For this reason the evolving strawberry has developed a very shallow root system. There has been no neccessity for it to go deeply into the soil for water. Hence, high organic matter remains the keystone to successful strawberry culture. Cultivated strawberries grow well at ph 5.5 to 6.5 in well-drained, sandy loams well supplied with humus to increase moisture retention in the root zone, a matter particularly pertinent during periods of low precipitation. However, it must be noted that strawberries also do well on heavy clay soils at an unusually high pH, such as those which occur near Winnipeg. The magic touchstone in this instance is organic matter and more organic matter; the result being a soil retentive of both moisture and oxygen for growth, plus an increased availability for ions supplying iron and trace elements, which are ordinarily quickly oxidized to high valence and ultimately bound in insoluble compounds in high pH soils which are deficient in organic matter.

Most commercial growers in Quebec need an irrigation system at planting time, and at harvest, when 2.5 to 3.8 cm (1 to 1.5 in.) of rain each week are necessary to fill out the fruits and to ensure a series of pickings at three-day intervals for each variety. It is significant that established plants have 75 per cent of their roots in the top 7.6 cm (3 in.) of soil and 90 per cent in the top 15 cm (6 in.). Pretty shallow! Lots of organic matter helps; but if drought occurs at harvest, the fruits become hard, small, and unmarketable. Once this has occurred the harvest will not begin again. Moisture at runner development and row renewal serves to increase the eventual yield.

STRAWBERRY

Some 3500 to 4000 tonnes of strawberries are harvested annually in Quebec.

Strawberries are best grown in a rotation which includes a legume and vegetable cash crops; but large growers usually develop a method which omits these other cash crops because of their special requirements in respect of machines and operation and the heavy load added to management. Strawberries should not be grown in soils which have recently carried raspberries, beets, potatoes, tomatoes, or peppers because such plants often leave the Verticillium wilt fungus for up to four years. The strawberry is very susceptible. To avoid the white grub problem, strawberries should not follow a sod until a well cultivated crop has occupied the land. If there is no rotation, the organisms which cause strawberry root rot build up. A good rotation should avoid such risks, destroy weeds, and build up organic matter. One may include grains and clovers which are non-susceptible to root rot.

A good start may be made with a legume, preferably a clover. This should be followed by a properly fertilized, hoed (cultivated) cash crop. If farm manures, which are humus forming, are not available for application at a rate of 50 tonnes per hectare (20-25 tons per acre, if you will) to the hoed crop one year before planting the berries, the clover can not be omitted. If the operation is of limited extent, with small fields which must produce returns from intensively worked cash crops, one sometimes sows an early crop, such as lettuce. Some organic matter build up for berries the succeeding spring may be attained by sowing a green manure crop with 0-10-20 worked into the soil after the lettuce has been removed.

Prior soil tests should be conducted, but ordinarily at the time of spring working and one week before planting the strawberries, one of the following fertilizer applications is recommended:

a) after green manure as above, 575 kg of 10-10-10 per ha (500 lb per A., approx.)
b) after hoed crop alone, 1100 kg per ha of 5-10-10 (or equivalent in 10-20-20; i.e., 650 kg per ha or 500 lb. per A., approx.), or 650 kg of the preceding and 25 tonnes of well-rotted manure per ha (300 lb. of 10-20-20 and 12 T. approx.).

In the planting year a side dressing of ammonium nitrate to stimulate runnering may be made four to six weeks after planting. A second dressing in late August or September will increase the number of flower buds and the subsequent yield in year two. The rate is about 80 kg per ha. (70 lb. per A.).

Two men working together may plant by hand. Machine planting requires three men but is faster, provides for watering, and reduces cost. Set dormant plants in spring as soon as it is possible to work the land, usually early May. This enables the production of runner plants in July. Early-formed new plants fruit more heavily than late summer plants. A low yield in the summer after fall planting, in our climate, does not justify the expense of mulching to protect inadequately established fall plants from extensive killing cause by winter cold. Fall planting is only for the inveterate gambler. The probability of winning is remote, and opportunity to recuperate a loss is nil. There are two general systems of planting: the matted row and the hill system. Long experience suggests that the former is ordinarily preferable where winters tend to be relatively severe, which simply put means a situation warmer than Baffin Island but considerably more rigorous than, say, California.

In the matted row system the plants are placed 45 to 50 cm apart in rows separated by 1.2 m (18 in. and

4 ft.). Spread the roots of each plant and tamp in with the soil line through the centre of the crown. Each plant will develop runners rooting ordinarily at every second node to form up to 8 or 12 daughter plants encircling the mother plant. The new plants may be spaced 15 cm or 6 in. apart after each cultivation. When the row is complete, new runner growth can be cut off with a coulter. This is attached to the cultivator after the rows have been filled by plants to the desired width. By means of a progressively narrowed and shallow cultivation at about two week intervals during the growing season, always in the same direction, the first growth of the widely spreading runners is thrown undamaged back into rows which are confined to a width of 1.2 m, identical to the aisle width between rows. This system requires 12,500 plants per hectare (5000 per acre).

Single plant systems (hill, so-called) require runner removal or chemical inhibition of runners. If the plants are set in squares with sides 0.3 m and aisles 0.75 m (12 and 30 in.), the number of required plants will be 54,500 per ha. In warmer regions, this system gives the heavier yield. Under Quebec conditions, it does not perform well. Moreover, a greatly increased cost of set and operation is evident.

In the case of the matted row, during the first year of growth all blossoms should be removed so that no energy will be diverted to a function retarding the filling in of the row or tending to decrease the harvest which occurs in year two. No fertilizer is applied in year two unless a renewal procedure is followed in order to get a second crop in year three.
Although at one time it was thought that yields dropped in year three, Quebec experience indicates otherwise. The depletion caused by frost injury has been surmounted and the matted row plantation more firmly established. Most Quebec growers now take two crops before ploughing the plantation under.

Renewal is achieved by mowing the tops of the plants with a rotary mower set 2.5 to 5 cm (1 to 2 in.) above the crowns following harvest. An application of 1136 or 1100 kg approximately (1,000 lb. per A.) of 10-10-10 is broadcast over the whole area.

When crop rotation and cultivation practices are followed, weeds, insects, and diseases are not usually severe problems. Various chemical treatments are used, sometimes to prevent their occurrence, but more often to provide for their alleviation when they exist. Since new materials come on stream at short intervals, and recommendations change almost yearly, perhaps the best advisement is to direct the grower to his regional agronome.

Strawberry plants must be mulched to prevent damage and to delay the bloom until after the last frost. A mulch may be 5 tonnes per hectare (2 T. per A.) of clean wheat or rye straw applied by machine or hand just prior to extreme temperatures and snowfall in autumn. The mulch should be raked into the aisles in spring to hold moisture and keep down weeds. One may postpone the operation for a few days to delay flowering, but not so long as to induce heating sufficient to injure the plants. If after that a frost threatens, irrigate with sprinklers which have frost nozzles or, if no irrigation is available, replace the mulch for a short time.

At harvest 15 to 25 pickers per hectare are required, or 6 to 10 per acre (6 to 10 per 0.4 ha), depending upon which figures make calculation easier. Labour engaged prior to harvest may be organized to match the orderly schedule of ripening and picking peculiar to the crop. A growing shortage of suitable harvest labour has encouraged many growers to try the pick-your-own system. Although it may eliminate certain costs for growers and make a higher net profit for the 30 per cent so handled, it is difficult to organize and not entirely reliable.

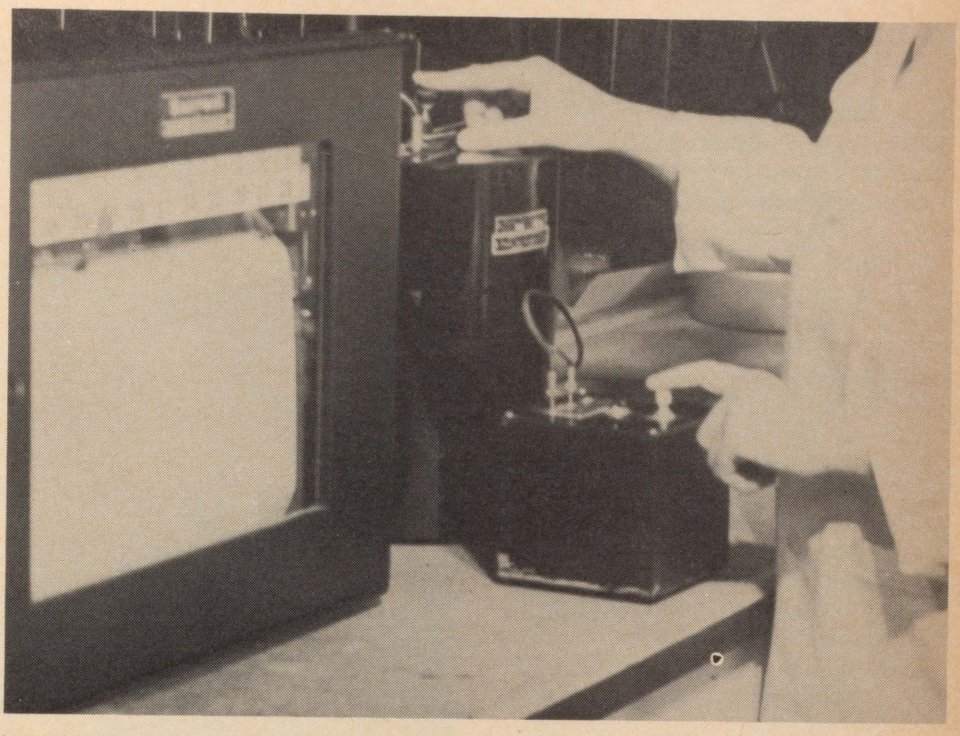
Although mechanical harvesters are expensive, in limited supply, and by no means out of the developmental stage, a few growers have made the purchase. These machines work on the principle of a once-over harvest of any cultivar which, like Sparkle, is capable of ripening 75 per cent of its fruits on a single date. The short storage life of strawberry dictates a need for several such varieties ripening over an extended period to ensure orderly marketing.

There is another kind of machine which is sometimes termed a mechanical aid. It carries pickers in a prone position over the field. In some respects, this thing resembles a dune buggy, but offers a somewhat harder ride. However, it does indeed improve the capability of an inexperienced picker, who can pick 20 to 40 per cent more when working on a machine. The increase is relatively less for an experienced worker.

The strawberry is not a mere luxury product. It is high in Vitamin C and nutritious in respect of a number of other constituents. Like spinach and rhubarb its oxolate content tends to lower the amount of Ca available to the body relative to the amount ingested. In the case of the strawberry this is not a major detriment for the effect is easily nullified by adding a little milk to each dish of berries. However, it is not likely that nutritive value alone will determine the future of the crop here. It does seem reasonable, however, to predict that the cost of fuel for production and long distance shipments may make it increasingly costly to import, and make more of the local market available to our production for both processing and fresh fruits, particularly if we are able to devise more sophisticated storage techniques for the fresh crop. The industry is growing now, and there are many indications that it will continue to do so.

From Calories to Kilojoules

by Professor F. A. Farmer
School of Food Science



Canadian children are indeed fortunate in having such an abundance of food to meet their energy needs for development. Would that they could share their food with less fortunate youngsters. Hungry children in the third world need energy just as our children do, but sometimes nature slows their growth rate to reduce their energy needs.

We have grown accustomed to referring to the energy in food as calories but in 1980 we will have to start thinking of energy in terms of kilojoules. If you were cold and hungry, which do you think would provide you with more energy: 500 calories from potato salad or 500 kilojoules from a sandwich? Calories are much larger than kilojoules, so you would get about four times as much energy from the potato salad as from the sandwich. One calorie is equivalent to 4.186 kilojoules.

How are kilojoules determined? The answer is simple. Kilojoules are determined in exactly the same way as calories. Kilocalorie is the term used for the "large" Calorie (properly spelt with a capital C), the required heat to raise the temperature of one kilogram of water one Celsius degree. The small calorie, used in physics is 1/1000 of the Calorie (kilocalorie). A kilojoule, on the other hand, is an energy unit but not necessarily a heat unit. One joule is capable of giving a mass of one kilogram an acceleration of one meter per second, over a distance of one meter. A kilojoule is a thousand joules. If a kilocalorie measures energy as heat and a kilojoule measures energy as work (moving an object from one place to another), how can kilocalories and kilojoules be determined in the same way?

The most important factor to take into account in trying to estimate the energy needs of an individual is his body size. The larger the frame, the more work required to move it; the heavier the child (assuming normal weight), the more muscular tissue he has and the more energy he needs to carry on all his bodily functions. The energy needs of a child can be determined with a metabolor, an instrument which measures oxygen consumption. A factor (constant) can then be used to convert litres of oxygen to kilocalories of heat (or just as easily to kilojoules of work).

To determine energy in a food, the food is burned in a bomb calorimeter (see above) and the rise in temperature of the water (surrounding the container) determined. Again, using a factor (constant), the rise in temperature can be equated to either kilocalories or kilojoules.

The energy needs of children change gradually as they grow, and their energy expenditures fluctuate constantly throughout their childhood. In spite of this, most children maintain energy balance at all times. Appetite, in a healthy child, is an excellent guide for food intake and even rapidly growing teen-agers increase their food consumption so gradually that few are aware of any day-to-day changes.

It is natural for adults to decrease their food intake as their activity decreases, but appetite does not seem to be as good a guide for decreasing energy needs as it is when needs are increasing. Perhaps this is why so many adults are concerned with weight control. They have eaten so often when they were not hungry (a large lunch, just to be sociable; between meal snacks, just to please a hostess; or a favourite food to ward off boredom) that appetite no longer gives the correct signals. The sight of food on a plate or the mention of food on television can trigger the desire to eat, even when a person is not hungry. As a result of this, calorie has become a bad word. Many adults in the western world choose to avoid eating calories. They have almost forgotten that the primary purpose of eating food is to provide energy to the body. They search for foods which taste good but contain few calories. After 1980, these same people will still be looking for low energy foods, but instead of finding them on the "reduced calorie" shelf, they may be on the "reduced kilojoule" shelf instead. Unfortunately, kilojoules will be just as hard to avoid as calories. If weight control is your problem, start now to deal with it. It won't be any easier when we change to kilojoules.

Quebec Young Farmers

On the Move

by Joanne Enright
Secretary-Manager
Quebec Young Farmers'
Provincial Federation

I awoke with a start as the alarm went off. I looked at the clock and for a moment I couldn't think why I was getting up at 3:45 a.m. Then it suddenly all came back to me. This was the big day that we had been looking forward to for months. This was the day that 30 Quebec Young Farmers would be flying to Alberta for a one-week visit. Their expectations ranged from rodeos and cowboys to towering mountains and wide open spaces. Their experiences far surpassed all their expectations.

This was not the first time that a group of Quebec Young Farmers had undertaken such a trip. Eight years earlier during the summer of 1970, 15 farm youths from the Eastern Townships and the Chateauguay Valley travelled to Alberta for a 16-day visit. These same youths, upon their return, formed what is now known as the Quebec Young Farmers' Provincial Federation. Many new friends had been made during the trip and it was felt that in order to maintain these newly formed friendships some kind of unifying structure was needed. This resulted in the QYF, which for eight years now has been serving as a means of unity and communication for anglophone rural youth in the province of Quebec. Over the years that followed that first Alberta trip membership has grown from the original 15 to over 500.

The QYF's ever-expanding program included two exchanges this summer. On July 9, 30 young farmers from the Eastern Townships flew to Alberta. The following week 43 young farmers from the Chateauguay Valley travelled to Lancaster County, Pennsylvania. Both exchanges resulted in new experiences, new friends, and a better understanding of people and agriculture in other areas of North America besides our own.

Albertans and Quebecers take a rest after a climb up the "Bear's Hump" at Waterton Lakes National Park in the Canadian Rockies.

Entertainment at the Calgary Stampede included the world famous chuck wagon races.

These exchanges were not last minute ideas. Work on the Pennsylvania exchange began well over a year ago. Hard working members and dedicated leaders were the driving force that made this exchange a reality. The summer of '77 saw the arrival of a bus load of 4-Hers from Pennsylvania in the Chateauguay Valley. The group spent an action packed week touring everything from a beef farm to Old Montreal.

The Chateauguay Valley Young Farmers spent the major part of the months of May and June raising

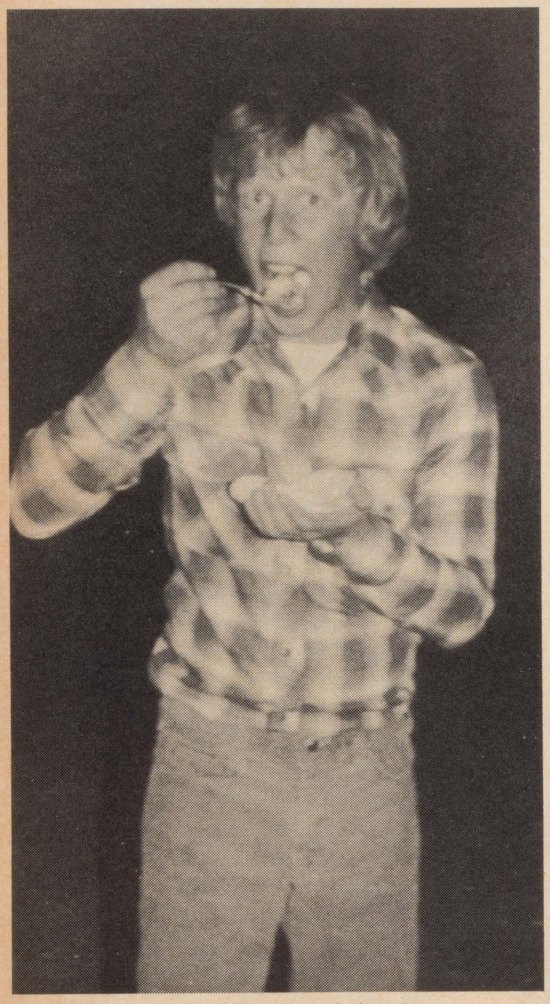
Everyone enjoyed a good old-fashioned hay ride; even those that had spent the day throwing bales!

Alberta 4-Hers and Waterloo Young Farmers pulling together at the Sawyerville sports day.

money for the return trip to Pennsylania. Many of them became avid fund raisers as they did everything from organizing dances and bottle drives to selling ice-cream at Ormstown Fair. Everyone knew that each milk shake and ice-cream cone brought them that much closer to Pennsylvania.

The group arrived there on Saturday evening, July 15, and rumour has it that they spent the major part of the evening trying to recover from their 13-hour bus trip. The first item on the agenda was a tour of Hershey Park and Chocolate World. Many a sweet tooth has found happiness at this well-known amusement centre and the young farmers' group was no exception. The following morning was spent touring the Landis Valley Farm Museum, a historical and cultural display of farm life in the Pennsylvania of days gone by. Lancaster County is one of the most prosperous dairy counties in the state, so the Chateauguay Valley group felt right at home. Another day was spent touring agriculturally related enterprises including a poultry processing plant, a Sperry-New Holland plant and an Amish Farm. The Amish people, often referred to as the "Plain People" are a strict religious sect who use farm methods which are very old-fashioned, but very productive. The week was closed out by a dance which was held in honour of the exchange group. Saturday morning the group started home. One participant summed up the trip very well when she said, "Many of us did not want to leave. We had all grown accustomed to shoofly pie, Hershey bars and Pennsylvania dialect."

Planning for the Alberta Exchange began last winter. The exchange was sponsored by the Secretary of State through a program called Open House Canada. The Alberta delegates were from the foothills area of southwestern Alberta and most of them lived on beef ranches. They arrived in the Eastern Townships after a one-day tour of Ottawa. The first activity that they attended was a Homemade Ice-Cream Social which the Richmond Young Farmers' Club hosted. For $1.50 you got to eat all the homemade ice-cream and strawberries that you wanted. The kitchen staff got to know a number of people by name by the third or fourth serving. Another day was spent touring Montreal. A number of the Alberta delegates remarked about the history and heritage that is so visible throughout Quebec. They found it hard to believe that when the homesteaders were just moving into their area, there were already buildings over 200 years old in Quebec. A tour of the Olympic



Fresh strawberries and homemade ice cream. What more could a guy ask for?

Above: The unique mixture of traditional and modern is clearly visible in this Pennsylvania photo. For the Amish farmers, the horse and buggy is the sole means of transportation. Below: Pennsylvania exchange delegates included Pam Ness (Howick), Cheire Gochnauer (Penn.), Brian MacFarlane (Howick), Blake Hooker (Ormstown), Brian Immel (Penn.), and Scott Templeton (Howick).

Stadium and a ride on the Metro were two of the highlights of the Montreal tour. More than one Montreal motorist decided to give the pedestrian the right of way when we crossed the streets 80 at a time. The hay ride was another activity that everyone enjoyed. Although horses are common in Alberta, draft horses like the ones used for the hay ride are a rare sight in the West. The ride started out to be a very calm affair with everyone sitting on bales of hay or on the edge of the wagon, Mysteriously enough, though, when the group returned most of the hay had disappeared. It could be found scattered along the road for a distance of two miles and stuck to everyone's clothes and hair. The last big item on the agenda for the week was an activity and sports day. Activities included baseball, swimming, tug-of-war and trying to avoid being thrown in the river. Needless to say most of us did not do very well in the later activity. Many of the Albertans' preconcieved ideas about Quebec and Quebecers turned out to be totally false. As one

(Continued on Page 16)

Peat Moss for Starting Plants

by Dr. J. D. Campbell*

The use of sphagnum peat moss as a growing medium is being recognized in much of Europe and the United States. Unfortunately, this does not appear to be the case in Canada. Perhaps the necessity to intensify greatly all of our agricultural operations has not yet seemed important. This apparent complacency is likely to change. In this paper will be discussed some of the theoretical and practical aspects, especially in relation to the production of bedding plants.

Supplies of Sphagnum Peat Moss

Canada ranks third in the world in terms of its peat resources. The U.S.S.R., Finland, and Canada have 60.0, 9.5 and 9.1 per cent, respectively, of the global supply of this most valuable resource (2). Ireland, Finland, and Germany have made outstanding contributions in the use of peat in agriculture. Unfortunately in Canada, most of our efforts have been in the mining of peat moss largely for export to the U.S.A.

Important Properties of Peat Moss

Any soil medium should provide the following four basic requirements:

1. support and anchor for plants;
2. supply moisture for the roots;
3. provide air (oxygen) for the roots;
4. hold and release mineral nutrients for use by the plants.

Sphagnum peat moss provides all of the above requirements as well as or better than mineral soils, or known artificial media. Primarily, this is because it absorbs many times its own weight of water. Even when fully saturated, the coarser cells provide about 25 per cent air space. The finer cells provide for capillary water movement. A very important characteristic of peat moss is that it has a very high exchange capacity or the ability to hold nutrients (fertilizers).

Mineral Status of Peat Moss

The composition of peat moss is primarily cellulose. Usually acid in nature (pH 4.5-5.0), peat moss can be altered by the addition of ground limestone. Invariably peat is devoid of minerals, hence must be amended by the addition of major, secondary and micro-nutrients. When these are supplied in the correct proportions, amended peat moss becomes a growing medium equal or superior to any.

Moisture Control

Overwatering of mineral soil is a constant concern. This is because saturated soil leaves very little air space. However, such is not the case with peat moss. Overwatering of peat becomes virtually impossible as long as excess moisture can escape. It requires some practice to know how much water to apply. As a general rule, one should never let this medium come close to dryness. Water should be applied to satisfy this easy test: when peat is tightly squeezed, free water should appear fairly readily.

Mineral Amendment

Your author recently developed a formula of mineral amendments and named it "Manitoba Mix."[1] This contains necessary nutrients for the early stages of plant growth. For growing crops such as greenhouse tomatoes to maturity, additional minerals, especially nitrogen and potassium will be required. These are supplied in a constant or intermittent (weekly) feeding of soluble fertilizers.

The following nutrients are used to make one bag of the mix which weighs approximately 4 kg or 9 lb (Tables 1 and 2). When the contents of one 9-lb bag are thoroughly mixed with the loosened peat moss from one large 6-ft^3 bale of peat, it will produce about 9 ft^3 of a complete growing medium. Peat is packed under pressure and expands by about 50 per cent when the bale is opened. For smaller amounts of peat moss, such as 1 ft^3 (.75 bu or 2.5 pails), one would use approximately 1 lb or 453 g.

[1]Patent being applied for.

*Dr. Campbell was a Visiting Professor in the Department of Plant Science for the 1977-78 Winter Term.

TABLE 1. Formula for one bag of Manitoba Mix

		Grams
Major and secondary nutrients		
Ground limestone		1503
Dolomitic limestone		1618
Triple superphosphate (0-45-0)		173
Potassium sulfate (0-0-50)		347
Calcium nitrate (15-0-0)		173
Ammonium nitrate (33.5-0-0)		231
	Total	4045
Micronutrients		
Borate 46 (14.3% B)		2
Copper sulfate (25% Cu)		5
Iron sulfate (20% Fe)		11
Iron chelate (Fe 330 10% Fe)		4
Manganese sulfate (25% Mn)		4
Zinc sulfate (23% Zn)		4
Sodium molybdate (40% Mo)		1
	Total	31
	Total weight per bag	4076

TABLE 2. Guaranteed minimum analysis of Manitoba Mix

	Per cent
Total nitrogen (N)	2.6
Available phosphoric acid (P_2O_5)	1.9
Soluble potash (K_2O)	4.3
Calcium (Ca)	33.5
Magnesium (Mg)	18.8
Sulfur (S)	1.9
Boron (B)	0.010
Copper (Cu)	0.031
Iron (Fe)	0.063
Manganese (Mn)	0.025
Zinc (Zn)	0.035
Molybdenum (Mo)	0.010

Potential acidity — 1,320 lb calcium carbonate equivalent per ton

Starting Plants

Coarse peat moss is not suitable for starting seedlings. Peat-lite (1), developed at Cornell University and sold as Redi-Earth[1] and other brand names, is a mixture of equal parts of fine peat moss and horticultural grade Vermiculite[1] (expanded mica) plus required amendments. Such a product could be made by a similar combination of peat and vermiculite to which is added and well mixed Manitoba Mix at one quarter the level used for growing plants. For a volume of one cubic foot (see above) one would add four ounces or 113 g.

Seedling Containers and Watering

After the first true leaves appear, the seedlings should be pricked out into suitable containers. Ideally, each plant should be in a single pot. Peat is being used to make individual pots, strips (connected pots) and paks (for a number of plants). Compressed pellets are also available for those people who are looking for an absolute minimum of labour in starting plants. Your author much prefers to use the peat moss as the growing medium and plastic containers for the plants. Plastic flats are lighter and easier to clean than wooden flats. Into the flats can be placed a wide assortment of plastic containers. These are light, easily cleaned, and reusable. A popular method is the Cell-Pak[1] such as one which has four connected cells (one cell for a single plant) with eight units of paks per flat. A commonly used dimension of the cell is 2-3/8 x 2-3/8 x 2-1/4 inches.

Thirty-two plants can be handled easily in the flat. The cells can be placed on a synthetic Pellon (available from Pellon Chemotextiles Ltd., 1020 Montreal Road, Cornwall, Ontario K6H 5V7) fabric. By keeping this material constantly wet, the moisture moves up by capillary action.

Seedling Medium

The amount of medium required for the germination of seedlings is relatively small. Because of this and

[1]Trade name

its high quality for starting plants, your author recommends that you purchase Redi-Earth.[1] The amount of medium required when the seedlings are transplanted to individual containers increases significantly. Experience has shown that while a fine grade of peat is needed for germination, established seedlings do better in a coarser mix. In addition, it has not been found that combinations of peat with materials such as Vermiculite and Perlite[1] (4) are superior over coarse peat moss. It is also more economical to prepare your own growing medium by thoroughly mixing any good grade of peat moss with the correct amount of Manitoba Mix.

Liquid Feeding

While not absolutely essential, plants will make better growth by feeding liquid fertilizers on a weekly basis. Since phosphorus has been well supplied in the Mix, the two minerals to be supplied are nitrogen and potassium. These can be supplied by mixing equal quantities of ammonium nitrate (34-0-0) and potassium nitrate (13-0-44). This will give an analysis of 20-0-22. The recommended rate of plant food is one teaspoon per gallon of water. As the seedlings get larger, the amount can be increased to one tablespoon per gallon.

Results of Starting Media Tests

Your author carried out an observation trial comparing several growing media (3). Peat moss with Manitoba Mix produced the highest fresh and dry weight of tomato seedlings.

While at Macdonald College a replicated trial was carried out. The treatments were:

1. Peat with Manitoba Mix (MM)
2. Redi-Earth[1] (RE)
3. Pro-Mix[1] (PM)
4. Sterilized, made soil (MS)
5. Unsterilized field soil (US)

The crops used were beets, lettuce, cabbage, and spinach. Each treatment had four plots. The plants were started and grown in plastic cells as described earlier (Seedling containers and watering). The plants were grown under optimum conditions in the greenhouse for seven weeks from seeding. They were then removed from the containers and the roots washed free of the media. Individual plants were weighed, air-dried, and weighed again. These data were analysed statistically using the Duncan's Multiple Range test for comparison (see below, Table 3).

Acknowledgements

The author wishes to thank the Department of Plant Science for the use of their greenhouse and other facilities. He wishes also to thank the W. H. Perron & Co. Ltd. for its donation of seed, plastic containers, and materials used in this test. Lastly, he would like to thank the graduate students, Messrs José Guevin and L. Macartney for help in the weighing of the plants and the statistical analysis, respectively.

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TABLE 3. Comparison of dry weight yield of seedlings grown in five different media

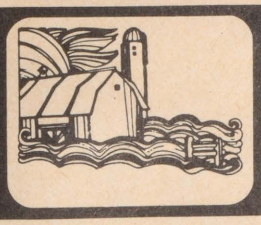
Treatment	Mean weight* (mg)
MM	684 a
RE	633 ab
PM	514 b
MS	359 c
US	163 d

*Means with the same letter are not significantly different at the 0.05 level.

It is clearly evident that these soilless media are superior to the soils tested. Peat moss with Manitoba Mix is equal or superior to the other soilless media tested.

[1]Trade name.

The Family Farm



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The Satisfaction of Work Well Done

GEORGE PIRIE — First in the Bronze Medal Class

by Rolande Laveau

This year, the Ottawa Valley region is proud to have in its midst the leading contestant in the bronze medal class of the 1978 competition of the Order of Agricultural Merit.

George Pirie, of Bristol (Pontiac County), an energetic farmer, has won this coveted title. As early as 1958, he and his father, Edwin, placed seventh in the silver medal class of this prestigious competition. On that occasion, it was said of George Pirie: "This young man, fired with healthy ambition, does not want to be just an average farmer." At that time, Mr. Pirie's farming abilities were already recognized and they are all the more evident today.

A Good Start

A farmer's son, George Pirie admits frankly and proudly that he has never had any other career in mind. "When I was only four years old," he says, "I learned to milk cows. I remember it very clearly because one of my uncles from Timmins, Ontario, told me: 'If you can milk this cow, I'll give you a pony,' Contrary to all expectations, I succeeded. I did not get the pony I longed for, though, and I'm still milking cows."

After some years of helping his father on the farm, George Pirie spent two years at Macdonald College where he took a course in agriculture. On his return from Ste-Anne-de-Bellevue in 1955, he went into partnership with his father and paid careful attention to improving the Holstein herd and increasing the productivity of the land.

The Farm

The courage and determination of this young holder of a Diploma in Agriculture have greatly contributed to changes in the family farm. In 1955, there were 135 acres, of which only five were used for growing corn. The pH of the soil was then only 4.8, so there could be no question of a good alfalfa yield. Thanks to sustained effort, the pH is now 6.8. Since 1965, the sub-drainage of all the farmland has been completed. At first, George Pirie was in partnership with his father, but he gradually acquired the farm and, in 1970, became the sole owner of "Elmside View Farm."

Mr. Pirie now operates a lovely farm of 200 acres together with another 200 that he leases. On this large acreage, he grows more than 100 acres of alfalfa, 48 of corn and 48 of oats and barley; 60 acres are kept for hay and the rest is for pasture.

An Unrivalled Holstein Herd

The Piries have lost count of the medals, trophies, and red ribbons they have won. The purebred Holsteins have always held pride of place at the farm, where the herd has been on ROP milk testing since 1949. When George Pirie went into partnership with his father, the dairy herd comprised 16 cows with an annual average milk production of 12,000 pounds, and there were only 135 acres of land being farmed.

Today, the Holstein herd comprises 40 cows of high quality whose average production last year reached 15,890 pounds of milk (7,223 kg). Some of them yielded over 16,000 pounds of milk with BCA's of 152 for milk and 169 for fat.

Building up such a herd requires time and patience. That is why the Piries gave up swine raising in 1963 to devote themselves wholly to the Holstein herd. Moreover, Mr. Pirie has always been very cautious before buying an animal or even before selling one at a good price; he says one must be sure it's worth while. Mr. Pirie, who is very proud of his cows and bulls with their impressive pedigrees, mentioned that one of his bulls was Grand Champion at the 1966 London Royal Fair. He has also supplied 20 bulls to various Canadian insemination centres, seven of them to the St-Hyacinthe centre. Another interesting fact: one of George Pirie's cows, "Patty Jones", an outstanding champion, has provided four bulls for artificial insemination. Mr. Pirie is convinced of the major importance of artificial insemination as regards the quality of the herd. "I have sold bulls to the St-Hyacinthe Artificial Insemination Centre," he says, "and then used the semen of these same animals to inseminate my cows. I have even been a keen promoter of artificial insemination in my region and I believe I've got my idea across. In fact, the past five years, the farmers have been adopting this method and have turned to St-Hyacinthe rather than to Ontario."

George Pirie, very proud of the new title he has won, with his son Charles who will doubtless carry on this worthy line of farmers.

Mr. Pirie never ties of praising his herd (of which he takes great care) and confides that he has even sold calves and heifers to other provinces and to Scotland and Cuba. We also found out that, in 1975, one of his cows, X-Belle, won the Hermas Lajoie Trophy for the best milk production in Quebec as a four-year-old.

The Family and Others

In 1960, George Pirie married Winnifred, a young woman with a warm smile who also comes from a farming family. They have four children, three of whom are members of 4-H clubs. Charles, 16, is now completing high school and will devote the coming year to an intensive study of French. He already does much to help his father and wishes to go on to study agriculture. Three girls, Debbie, 14, Marylin, 11, and little Nancy, five, make up this charming family. All are interested in the family farm and manage quite well when they have to take over in the absence of their father and mother.

Winnifred Pirie cooperates with her husband and loves decorating and making and mending things to the great joy of her whole family; she also bakes bread and buns. She has inherited her mother's skill at making lovely quilts. She is a member of a church group and of a local mutual help committee.

George Pirie's untiring activity has led him to be chairman of the 4-H for a long time and chairman of the local Holstein Club. He was also chairman of the Pontiac Agricultural

Society and, for eight years, director of the western Quebec fluid milk producers' association. Since 1972, he has been a member of the Pontiac School Board and is also an official judge of the Quebec Holstein-Friesian Association.

The Piries are not short of plans and projects. At "Elmside View Farm", they are thinking of adding a new wing to the barn built in 1970. What is more, George Pirie wishes to increase the production of his dairy herd and increase his crop yields.

The owners of "Elmside View Farm", which is situated at Bristol, a small community in the Ottawa Valley, are very hospitable. The greatest pleasure of the whole family is to welcome groups of visitors from all over Quebec and elsewhere. While we were there, friends from Wales were visiting and were gathering, among other things, information on Holstein breeding and rearing.

George Pirie's farm is at Bristol in Pontiac County.

(Continued from Page 10)

girl said, "We expected that no one would pay any attention to us unless we spoke French to them. We certainly were relieved to hear you speaking English and we sure wish that we could speak both languages like most of you." All of the group enjoyed learning about dairy farming and most of them got to practice throwing a few bales before they went home to start their own haying season. We waved them off on Saturday afternoon to shouts of "See you in Calgary tomorrow."

The next morning at 7 a.m. found us standing at Dorval Airport wondering what to do next. Although we had all been up for at least three or four hours, we were still pretty sleepy-eyed. By the time the flight was ready to leave an hour later we were all wide awake: and that was mainly due to anticipation and fright. As the plane levelled off I took a quick look around and noticed that everyone was at least smiling a little bit — well almost everyone.

When we landed in Calgary six hours later we were met by our Albertan friends and then we headed for the Calgary Stampede. We got our first look at some real "cowboys and Indians". By evening many of the Quebecers were sporting cowboy hats and feeling right at home. A number of us spent our first day with our host families "riding the range". Four-thousand-acre ranches are common, so it often takes a long time to locate the cattle. Most of the ranches where we stayed were commercial beef operations with from 100 to 200 Hereford, Charolais and Simmental cows that calve out each spring. The ranchers had not started haying yet so the work load was rather light. Apart from riding, a lot of time was spent sightseeing and mountain climbing. For most of the Albertans the Rocky Mountains were right outside their back door, so they were all experienced mountain climbers. Between the horse back riding and the mountain climbing we all developed sore muscles that we didn't even know existed before.

The distance between towns amazed most of us. Driving 30 miles to get groceries was not uncommon. At nearly every ranch there were at least two or three "vehicles" including a four wheel drive pickup. The group got together for a number of community activities, including a Pot Luck Supper and a rodeo. Everyone brought their horses to the rodeo and took part in the calf roping, steer wrestling, cow riding, and barrel racing. It was definitely a family affair and even some of the mothers got in on the action. The great "western hospitality" was most evident at the Pot Luck Supper. Well over 100 people attended and there was lots of food to go around. By that time it had become evident that whenever the group got together and there was water around, someone got wet.

The week was over before we knew it and it was time to head home. "Are you sure that we can't stay another week?" they asked. I seemed to be playing a losing game, for as soon as I'd get five people on the bus six would get off. The sun was just coming up as we headed north to Calgary. The foothills gave way to the prairies and the grain fields, and I was wishing that we could stay another week, too. I couldn't help thinking what a wonderful time we all had. In just two weeks we had learned more about Alberta and its way of life than we could learn from geography books in a whole lifetime. Air Canada flight 110 for Montreal left Calgary International at 8:30 a.m. Thirty Quebec Young Farmers looking slightly sleepy but extremely content boarded and headed for home. Everyone had just lived two exciting and fun-filled weeks that they would remember for a lifetime.

This Month with the QWI

Semi-Annual Board Meeting

The semi-annual Board Meeting of the Quebec Women's Institutes will be held at the Sheraton-Mount Royal Hotel in Montreal. The Executive meeting is on November 23, and the Board Meeting on the 24th and 25th. The agenda, apart from business, includes an FWIC slide presentation on WI work being done in parts of northern Canada.

Provincial Cookbook

The story of the new Quebec Women's Institute Cookbook started when Mrs. James Gamble, who was then our Provincial Secretary, took a photostat copy of the recipes that were sent in on Quebec scenery postcards by our members. These recipes were given out by our Provincial President Miss Edna Smith as a Quebec souvenir at the FWIC Triennial Convention that was held in Prince Edward Island in 1976.

When Mrs. Walter Kilgour became our Provincial President, she asked the Provincial Home Economics Convener, Mrs. Ruby Knights, if she would head a committee to compile a cookbook from these recipes. Mrs. Merlin Lewis, who also lives in Sutton and had had experience in getting a cookbook printed, was asked to work on this project as well. Mrs. Lewis is a member of the Fordyce WI, and they have their own cookbook.

Mrs. Lewis and I were the committee and selected the recipes. With very little experience in typing, our typing improved during the winter months, and we were able to get the recipes into book form. The reason members' names were not printed: some sent recipes with no names on them and others were not readable on the photostat copies, so in fairness to all names were omitted.

Printing was done at a reasonable cost in St. Blaise, Quebec. The address is Grande Ligne Village, Director, Germain Guerard, St. Blaise, J0J 1W0. This Home is a residential care unit which has government assistance, so the printing of the books was tax free. We ordered 2,000 cookbooks and the residents were pleased to get the work. When you read this, we hope all expenses will have been met and there will be a profit from the remaining books.

Thus far there has been very little expense as members have been kind enough to deliver some of the books to different WI branches.

The $2.50 includes the postage and cheques can be made payable to the Quebec Women's Institutes Inc., and sent to me with the order. I report and send all money to our Provincial Treasurer Mrs. G. E. Cascadden. To save postage, orders can be placed in group lots through your branch or county secretary. Books can be ordered at my address: Box 5, Sutton, P.Q., J0E 2K0.

Mrs. Ruby Knights,
QWI Convener, Home Economics

Anniversary Outing

The 45th Anniversary of **Ormstown** branch was held at Heritage House at Allan's Corners with 33 members and four guests present. President, Willa Hooker, welcomed Mrs. Ivan Barrington, the only Charter Member that was able to be present, Mrs. Nell Gartshore, a former secretary, Mrs. Arthur Champion, County President, and Mrs. Ruth Taylor from London, England. After a delicious noon meal, the adjournment of a brief meeting, and some picture-taking, the ladies walked over to the federal government Information Centre and toured this interesting building.

Glengarry Tour

Forty-six ladies enjoyed a tour of Glengarry County in Ontario in early September. Organized by Mrs. J. Templeton, President of **Howick** WI, the trip proved to be interesting at every stop and a public address system was used which helped to keep everyone informed of the highlights along the route. Several stops were made along the way; these included one at the site of the ruins of St. Raphael's church, built in 1786 and the cradle of Roman Catholicism in Upper Canada. It was destroyed by fire in 1970 and has been restored by the Ontario government. Williamstown, which remains much the same as it did in the 1800s, was also visited. A tour was taken of St. Andrew's United Church, built in 1812. Originally heated by pot-bellied stoves, the church now boasts solar heating. Hanging from the high ceilings are old kerosene lamps in elaborate 19th Century wrought iron chandeliers, and there are both modern and antique organs. The group also visited the Nor-westers and Loyalist Museum, housed in an 1862 school building. Examples of clothing, household effects, and books were on display. The second floor of the building housed the

North West story — a collection of furs, skins, stuffed birds and animals, birch bark canoes, David Thompson's desk, Indian cradleboards, minerals, and guns.

At noon, the group were at St. Andrew's Presbyterian Church where a luncheon was served by the Women's Institute of Martintown. A resume of some of the branch's projects was given before the ladies boarded the bus to take them to Maxville Manor on the outskirts of Maxville. The visitors were most impressed with the Manor and visited with many of the 150 residents, and were pleased to learn that many had friends or relatives known to them. Afternoon tea was served by the staff of the Manor and the WI.

Passing through more historic countryside, the last stop was made at the Glengarry Pioneer Museum at Dunnvegan. This is housed in a squared log coaching inn which was built in 1830. It still contains the original bar, wainscoating and broad pine plank floors, and is filled with artifacts dating back almost 200 years. A coach shed holds displays of sleighs, wagons, and farm machinery; a log barn, a collection of hand tools, and the small family cheese factory is typical of 1850 and is complete with the original equipment.

The group arrived home at 5:30, the close of a red-letter day in the history of Howick WI.

(We have had the following recipe for some time and regret that we did not get it into a "before pickling" issue. May we suggest that you take note of it for next year. QWI Publicity Convener Mrs. G. Nugent explained that these pickles were served at a Members Conference in Megantic County and several members commented on how good they were. We thank Mrs. Allen Little for sharing the recipe with us.)

Icicle Pickles

6-quart basket cucumbers, peeled, seeded, and cut into finger lengths. 1 pint salt and 1 gallon of cold water. Let cucumber pieces stand in this brine for 3 days, then drain.

Add 3 tablespoons of powdered alum to 1 gallon of water. Let this come to a boil and pour over the drained cucumbers. Let cucumbers stand in this solution for 24 hours. Drain and wash well.

Make a syrup of 6 cups of white sugar and 10 cents worth of pickling spice (put in a bag), and 3 cups of white vinegar. Pour over pickles.

Drain syrup off each morning. Boil the syrup and add 1-1/2 cups of sugar each of three mornings. **Note.** The **second** morning add a small piece (the size of a pea) of sodium benzoate food preservative to the hot syrup and enough green food colouring to make the pickles a nice green.

Bottle any time after 4 mornings.

Healthy Fruit Bars

1 cup whole wheat flour
1/2 cup sifted all purpose flour
1/2 cup wheat germ
1 teaspoon baking soda
1 teaspoon salt
1 cup liquid honey
1 cup melted margarine or butter

Combine all dry ingredients and mix, then add honey and butter. Mix well. Put 1/2 the mixture in a well-greased 9 X 13 pan and cover with the following filling:

Honey Date Filling

1 pound dates, cut fine
3/4 cup liquid honey

1/4 cup orange juice, plus the rind
1/2 teaspoon salt

Mix the ingredients and bring to a boil. Let boil gently about 5 minutes.

Drop the remaining 1/2 mixture over the filling by teaspoons. Bake about 30 minutes or until nicely browned at 350°F.

(This recipe was sent in by Mrs. Frances Stephenson of **Wright** WI.)

Dear WI Members.

This month is supposed to be somewhat dreary; it is the time autumn is slowly slipping into winter. However, there is a feeling of contentment for the preparations for the wintery weather ahead are well underway and thoughts even travel to the up-coming Christmas season. The September reports tell about school fairs, 4-H Days, and county fairs. The roots of all big exhibitions and fairs lie in the small county fair. It is a family undertaking and a person has missed something if he or she has not at some time taken part in, or helped a member of the family exhibit at the local fair. Branches from the counties of **Megantic, Richmond, Chateauguay-Huntingdon, Sherbrooke,** and **Argenteuil** contributed to these worthy projects.

A motion was passed at **Dalesville-Louisa** that a letter be sent to the Director of the Laurentian School Board commending them on the stiffer rules set up for the schools this fall. Attendance at the meeting was good as members of Frontier had been invited to hear the guest speaker, Mrs. Dale Jones, who gave information and answered questions on breast cancer. Mrs. Jones is a trained volunteer for the program "Reach to Discovery" founded in 1953 by Therese Lasser to help those who undergo mastectomy operations. At **Lachute,** Mrs. Ethel McGibbon, Agriculture Convener, gave a most interesting talk on the

Branch Publicity Convener, Betty Comba, of Matagami in Abitibi County, sent along the above photograph taken at the branch's June banquet. She mentioned receiving a letter from their foster child in the Philippines and that the members were busy collecting items for CanSave which will be taken to the Semi-annual Board meeting in Montreal and turned over to Lucy French, Provincial Citizenship Convener.

breeding of and caring for Standardbred horses. She said that this is big business in our province today with the Quebec government promoting better breeding of Standardbreds by subsidizing each colt bred by a Quebec sire $30 a month for one year. The members of the Institute now know the difference between Standardbreds and Thoroughbreds, and between trotters and pacers. Roll Call at **Brownsburg** was answered by naming an "edible weed." Cookies, jams, and pickles were brought in for distribution to various seniors' homes in the area. This branch received an invitation to meet with **Jerusalem-Bethany** in October. Six members from this latter branch visited residents of Manoir Philippe and distributed apples. The roll call at **Frontier** was "silver collection in aid of the Landrover." At the **Arundel** meeting Mrs. Barbara Morrison was presented with a Life Membership pin by President Mrs. W. Owen. A former WI member, Mrs. Sosnhonski was guest speaker. She told about life in Poland during the German and Russian occupations. Her husband was leader of the Polish forces and they and their five children had to escape to England. Mrs. Sosnhonski now spends most of her time at her home in Spain but still maintains her residence in Arundel. At the **Aylmer** meeting Miss Hilda Graham presented Mrs. Roy Leach with a Life Membership pin, also an FWIC pin.

Aubrey-Riverfield had a fun day recently. Members met at a restaurant in Ormstown for lunch, then spent a short time shopping, after which they visited friends in Walshaven and Centre d'Acceuil. Members decided to answer the roll call for the next few months by giving one or more articles to CanSave. Mr. Roger Constant, a Quebec government agent, was **Ormstown's** guest and he talked about how to give assistance should disaster strike. **Hemmingford** reported that due to the School Fair being held the next morning, the members spent their meeting night registering and entering exhibits. Members of **Franklin Centre** were asked to bring in afghan squares and to help in supporting Havelock Fair.

We are pleased to receive news from **Stanbridge East** whose guest speaker was Miss Elizabeth Watson, R.N., who, until her retirement, was public health nurse in the area. Miss Watson gave a most informative talk on the work of C.L.S.C. in the community. She told how good health habits will lead to healthier lives. It is interesting to note that she did not discount the importance of home medicine, e.g., home remedies which have been used for generations. "We do not always know why they work," she said, "just what they do."

Fordyce ladies entertained the Sutton branch with a bountiful salad lunch. WI slides on Quebec, Ontario, New Brunswick, and British Columbia were shown. Mrs. Elsa Syberg entertained those present with poems recited in her native Danish as well as in German. This delighted several of the Sutton ladies, as many of the members are new Canadians. Norma Sherrer and Eunice Stowe presented a couple of short skits. Dr. Bazinet was the guest speaker at **Dunham.** She is

Chief of Staff at the Brome-Missisquoi Hospital in Cowansville, and following her interesting and informative talk, she ably answered all questions.

At **Belvidere's** meeting a motion was made in favour of grave markers for WI members. **Milby** had a successful rummage sale and everything that was left was sent to the Dixville Home. The President extended a warm vote of thanks to all those who had helped restore the club rooms to their present attractive state. This branch is in charge of the dinner for the Sherbrooke County Plowing Match held at the home of Mr. and Mrs. Allan Suitor. The guest speaker at **Lennoxville** was Mrs. Heather Ryan of South Stukely, who came from this area and is now building inspector. She explained the necessary size of lots, how roads are planned, and the work needed for such projects.

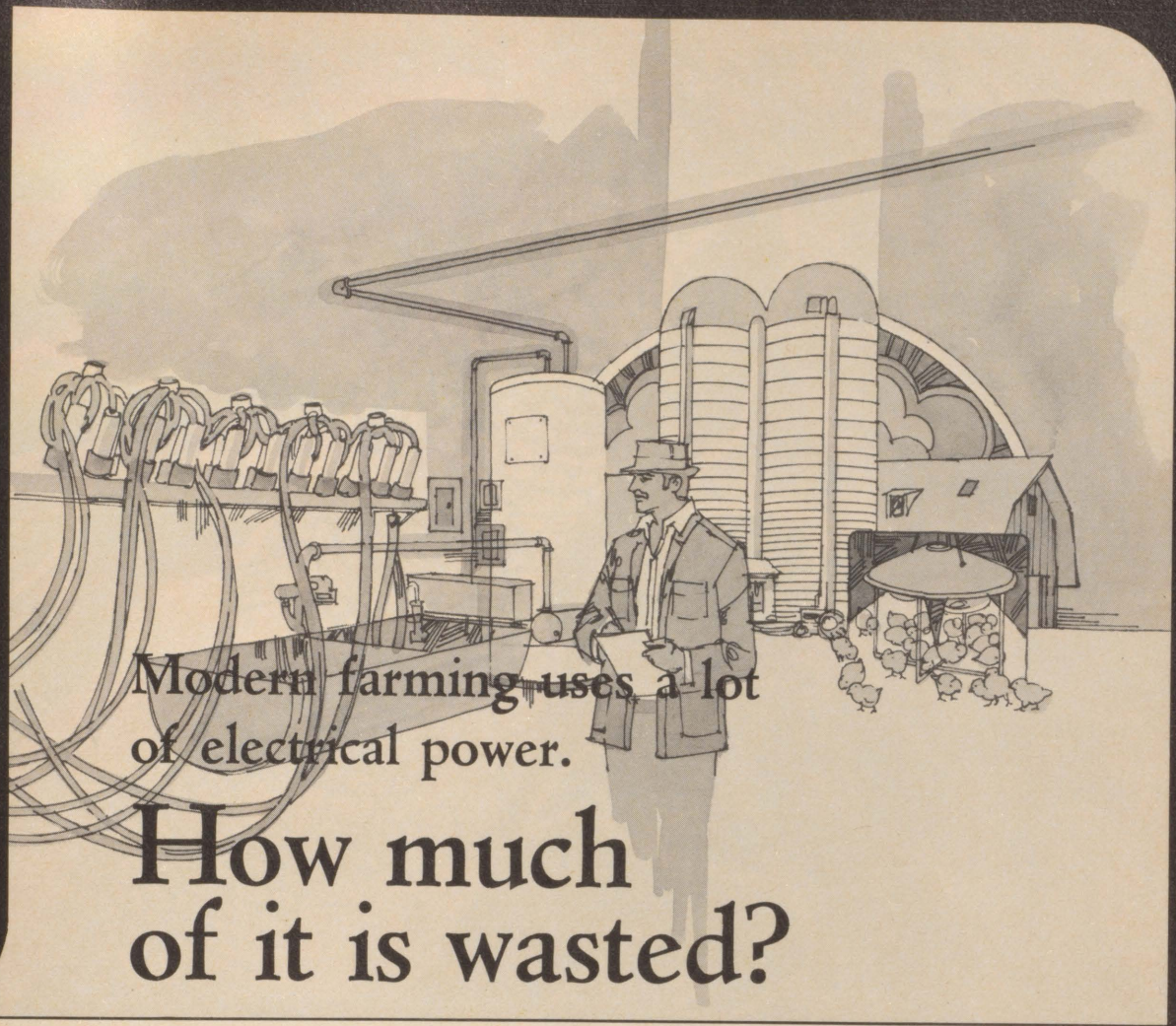
Bury entertained the County President, Mrs. Groom, four members from East Angus, and three guests. Mrs. Irwin McBurney told **East Clifton** members of her visit to the International Peace Gardens. All members were present at this meeting and a good sum was realized from the sale of pickles, jams, and handicrafts for the Sunshine Committee. **Sawyerville** made plans to host the semi-annual meeting, and **Brookbury** is planning three card parties to buy tables and chairs.

Mrs. Sutherland, Publicity Convener for Richmond, reported that all branches participated in the bazaar and tea which was very successful. Six out of the eight branches participated in another county project — making a rug out of leftover material. The rugs were exhibited at Richmond County Fair. First prize was won by **Melbourne Ridge,** second by **Denison Mills. Richmond Young Women** purchased a share in the Richmond Agricultural Society and gave $200 to the student loan fund at Richmond Regional School. **Shipton** and **Denison Mills** donated to Pennies for Friendship, and **Melbourne Ridge** entertained the County President, Mrs. Eastman. **Spooner Pond** enjoyed a very interesting talk on the C.L.S.C., a government-run clinic and social service centre now open in Richmond, At **Richmond Hill,** flowers, grown from seeds given out in the spring, were judged with first prize going to Mrs. N. Wallace and second to Mrs. E. Mason.

Granby Hill's Agriculture Convener read a report on the world shortage of maple syrup. Legislation is being planned to improve the development of this industry as maple syrup is a unique resource. An article was read on home economics mentioning that two cereal manufacturers are being charged because of the sugar content in their cereals. There is more sugar in some cereals than there is in candy bars. The Health and Welfare Convener said that more than one half of Canadians are overweight, one in six has high cholesterol, one in 16 has enlarged thyroid, and three out of four Canadian Indian children have iron deficiency. This branch is inviting Abercorn to a meeting. Each member at **Granby West** was asked to name an interesting place she had visited this past summer and why she thought it so. Eleven members from **Waterloo-Warden** plan to attend the semi-annual; also knitted articles for CanSave were brought in. **Inverness** members and two guests went to a restaurant in Thetford for dinner instead of their regular meeting. They had a very successful garage sale, thereby adding to their funds.

Some roll calls are: **Upper Lachute-East End,** give tips on using home freezers; **Brompton Road,** name a household article found in stores 25 years ago and not today; **Stanbridge East,** name one way you have contributed to your well-being (and/or family's) in the field of preventive medicine; **Denison Mills,** tell about a book or magazine you have read; **Granby Hill,** read or recite a poem; **Matagami,** name the flower of your birth month. Here are some mottoes sent in: **Fordyce,** perhaps the best way to live happily ever after is not to be after too much; **East Angus,** public opinion is like the castle ghost; no one has seen it but everyone is scared of it, and a well-known English poet and writer said, "When a man's fight begins with himself, he is worth something."

Gladys C. Nugent.
Publicity Convener, QWI.



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